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Remarks

Reconsideration of the application is requested. Claim 1 is amended to address the 35 U.S.C. 112, first paragraph, rejection, and dependent claims 9-11 are amended only to reflect the amendment made to claim 1. Claim 22 is canceled. Claims 1-7, 9-11, 13-21, and 23-26 remain pending.

Claim Rejections - 35 U.S.C. §112, first paragraph:

Claim 1 was rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. The Office Action alleged that the specification taught comparison of the mean symbol error probability or the mean error rate. Claim 1 has been amended to recite the comparing of these “mean” functions. Thus, it is believed that this rejection is overcome and should be withdrawn.

Claim 22 has been canceled thereby rendering rejections related to it moot.

Claim Rejections - 35 U.S.C. § 103:

Claims 24 and 26 are rejected under 35 U.S.C. §103 as being obvious based on Servais, et al. (U.S. Patent No. 6,141,388; “Servais”) in view of Ngoc et al. (U.S. Patent No. 6,539,031; “Ngoc”) and further view of Yao (U.S. Patent No. 6,400,724; “Yao”). These rejections are respectfully, but most strenuously, traversed for the reasons that follow.

Applicants respectfully submit that the applied references, with or without combination, assuming, *arguendo*, that the combination of the applied references is proper, do not teach or suggest one or more elements of the claimed invention, as further discussed below.

For explanatory purposes, applicants discuss herein one or more differences between the applied references and the claimed invention with reference to one or more parts of the applied references. This discussion, however, is in no way meant to acquiesce in any characterization that one or more parts of the applied references correspond to the claimed invention.

Claim 24 is dependent on independent system claim 13. The system of the claim 13 includes a transmitter that transmits and a receiver that receives a plurality of symbols over a communication channel. A decision device provides a plurality of soft decision metrics for symbols received over the communication channel. A processor obtains an error rate estimate through employment of symbol or bit error probability values computed from the soft decision

metrics. The processor compares the symbol or bit error probability values to one or more predetermined thresholds to select a communication protocol of the communication channel. In accordance with claim 24, the communication protocol comprises a first communication protocol wherein the transmitter or receiver implements the first communication protocol for the communication channel upon the symbol or bit error probability exceeding a first threshold of the one or more predetermined thresholds. The transmitter or receiver implements a second communication protocol for the communication channel upon the symbol or bit error probability exceeding a second threshold of the one or more predetermined thresholds.

The requirements of the parent claim 13 are alleged in the Office Action to be taught by Servais in view of Ngoc. It was acknowledged in the Office Action that the combination of Servais and Ngoc did not teach the requirements further specified in claim 24 of implementing a first communication protocol upon the error probability exceeding a first threshold and a second communication protocol upon the error probability exceeding a second threshold. Yao was alleged to teach: "on different protocol having different permissible error rate/the threshold (column 5, lines 40-57) in wireless system." The premise of this rejection is the incorporation of the teachings of Yao into the method taught by Ngoc. Because Yao does not provide appropriate teachings, combining the actual teachings of Yao with Ngoc, assuming, *arguendo*, that such a combination is proper, does not render obvious the subject matter of claim 24.

Yao is directed to a technique for providing the efficient transmission of data in a communication system. The method of Yao increases the probability of a successful data frame transmission by storing data frames that have been transmitted and retransmitting the previously transmitted data frames again during frame intervals in which no new data frames are awaiting transmission (see the Abstract of Yao). The cited text of Yao relied upon in the Office Action (column 5, lines 40-57) provides:

The protocols contained within IS-707 and IS-99 to transmit data are different than the protocols used to transmit audio information, as specified in IS-95, due to the properties associated with each data type. For example, the permissible error rate while transmitting audio information can be relatively high, due to the limitations of the human ear. A typical permissible frame error rate in an IS-95 compliant CDMA communication system is one percent, meaning that one percent of transmitted frames can be received in error without a perceptible loss in audio quality.

In a data communication system, the error rate must be much lower than in a voice communication system, because a single data bit received in error can have a significant effect on the information being transmitted. A typical error rate in such a data communication system, specified as a Bit Error Rate (BER) is on the order of 10^{-9} , or one bit received in error for every billion bits received.

The above quoted text merely states that an acceptable quality audio transmission can be attained with a frame error rate that would be unacceptably high for the transmission of non-voice data. Yao goes on to explain that when a frame is received that contains an error, a negative acknowledgment message or NAK is sent to the originating transmitter causing the originating transmitter to retransmit this frame. A series of NAKs will result in the retransmission of a corresponding series of frames. This gives rise to the principle of the invention of Yao to minimize the need for NAK requests and the associated frame retransmissions wherein frames are automatically resent during intervals in which no new frame information awaits. This results in the need for fewer NAK requests and corresponding retransmissions since at least some of the transmitted frames will be automatically retransmitted for a second time. See Yao, column 5, line 57-column 6, line 12.

One of ordinary skill the art would understand the teachings of Yao to be directed to an automatic retransmission technique in which frames are automatically retransmitted during intervals in which no new frames are awaiting transmission. See column 7, lines 19-24. Assuming for purposes of argument that Ngoc discloses implementing a first modulation scheme upon errors reaching a first threshold and a second modulation scheme upon errors reaching a second threshold, one of ordinary skill the art would not be led to implementing first and second communication protocols based on error rates exceeding first and second thresholds, respectively, as required by claim 24 even in view of the teachings of Yao. While Yao points out that voice and non-voice transmission techniques may have different corresponding levels of acceptable error rates, Yao does not teach or suggest that a change be made in the transmission protocol based on the level of error rates.

One of ordinary skill the art would not be led to modify the teachings of Ngoc in view of Yao as suggested in the Office Action. If the teachings of Yao were to be combined into Ngoc, one of ordinary skill the art would implement an automatic frame retransmission technique as suggested in Yao in the communication technique described in Ngoc. Assuming such a

combination were possible, one of ordinary skill the art would not be led to the requirements of claim 24 requiring implementing first and second communication protocols based on error rates exceeding first and second threshold, respectively. It was acknowledged in the Office Action that Ngoc did not provide such a teaching. Therefore, even considering the combination of Yao with Ngoc by one of ordinary skill the art, the invention as defined in claim 24 would not be rendered obvious. The law is well settled that combining two references, neither of which teaches a required limitation of a claim, does not render the claim obvious.

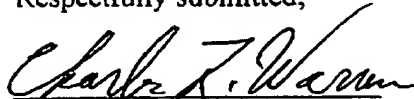
Claim 26 contains limitations similar to those of claim 24 and hence is believed to be not rendered obvious for the same reasons explained above with regard to claim 24.

Withdrawal of the rejections of claims 24 and 26 is respectfully sought.

Pursuant to MPEP 706.07(c), it would be inappropriate to make an Office Action final should new references be applied in support of a rejection of claim 24 or 26 since Applicants have made no amendments to these claims to necessitate such a change of position. Since the last office action was made final, the application of new prior art in view of no new amendments to the claims by Applicants should be made in a non-final office action.

If a telephone conference would be of assistance in advancing the prosecution of this application, the Examiner is invited to call applicants' attorney.

Respectfully submitted,



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